

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 28578WOP00	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/AU2004/001292	International filing date (day/month/year) 22 September 2004	Priority date (day/month/year) 22 September 2003	
International Patent Classification (IPC) or national classification and IPC Int. Cl. <sup>7</sup> B01D 65/02			
<b>Applicant</b> U.S FILTER WASTEWATER GROUP, INC. et al			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a.  (sent to the applicant and to the International Bureau) a total of sheets, as follows:

sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b.  (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand 27 June 2005	Date of completion of the report 28 October 2005
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaaustralia.gov.au Facsimile No. (02) 6285 3929	Authorized Officer  <b>MATTHEW FRANCIS</b> Telephone No. (02) 6283 2424

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/001292

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:

international search (under Rules 12.3 and 23.1 (b))  
 publication of the international application (under Rule 12.4)  
 international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

the international application as originally filed/furnished  
 the description:  
 pages as originally filed/furnished  
 pages\* received by this Authority on with the letter of  
 pages\* received by this Authority on with the letter of

the claims:  
 pages as originally filed/furnished  
 pages\* as amended (together with any statement) under Article 19  
 pages\* received by this Authority on with the letter of  
 pages\* received by this Authority on with the letter of

the drawings:  
 pages as originally filed/furnished  
 pages\* received by this Authority on with the letter of  
 pages\* received by this Authority on with the letter of

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3.  The amendments have resulted in the cancellation of:

the description, pages  
 the claims, Nos.  
 the drawings, sheets/figs  
 the sequence listing (*specify*):  
 any table(s) related to the sequence listing (*specify*):

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

the description, pages  
 the claims, Nos.  
 the drawings, sheets/figs  
 the sequence listing (*specify*):  
 any table(s) related to the sequence listing (*specify*):

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AU2004/001292

**Box No. V** **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims 1-13	YES
	Claims	NO
Inventive step (IS)	Claims 1-13	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-13	YES
	Claims	NO

## 2. Citations and explanations (Rule 70.7)

D1: WO 1993/002779

D2: US 4676539

D3: GB 2120952

D4: JP 10028845

D5: JP 60019002

NOVELTY (N), INVENTIVE STEP (IS)

Claims 1-13: The cited art, particularly D1, disclose methods of filtration and associated apparatus that use back flushing with gas to maintain the membranes. The cited art discloses this with gas pressures above the bubble point of the systems involved. There is further disclosure of gas scouring of the membranes. However, there is no disclosure or suggestion of operation below the bubble point of the gas nor of concurrent draining from the lumens during the backwash. Hence these claims are considered both novel and inventive.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/001292

**A. CLASSIFICATION OF SUBJECT MATTER**

Int. Cl. <sup>7</sup>: B01D 65/02

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Derwent DWPI: IPC + Keywords AERAT, BUBBL, BACKWASH, BACKFLUSH

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 1993/002779 A1 (MEMTEC LIMITED) 18 February 1993 Page 6 lines 4-11	2-4,11-13
X	US 4767539 A (FORD) 30 August 1988 Abstract, claims	2,3,12,13
X	GB 2120952 A (JGC CORPORATION) 14 December 1983 Claims	2,3,11-13
X	Derwent Abstract Accession No. 98-162733/15, Class J01, JP 10028845 A (KANEUCHI KAGAKU KOGYO KK) 3 February 1998	2,3,12,13

Further documents are listed in the continuation of Box C

See patent family annex

* Special categories of cited documents:		
"A" document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search  
26 November 2004

Date of mailing of the international search report  
13 DEC 2004

Name and mailing address of the ISA/AU  
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**INTERNATIONAL SEARCH REPORT**

International application No.

**PCT/AU2004/001292**

<b>C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
<b>Category*</b>	<b>Citation of document, with indication, where appropriate, of the relevant passages</b>	<b>Relevant to claim No.</b>
X	Derwent Abstract Accession No. 85-064514/11, Class J01, JP 60019002 A (NIPPON GENSHIRYOKU JUIGYO) 31 January 1985	2

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/AU2004/001292

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report			Patent Family Member		
WO	9302779	AU	24220/92	AU	62042/96
		CA	2114228	EP	0641246
US	4767539	AU	34400/84	EP	0160014
GB	2120952	FR	2525488	JP	58183906
		US	4540490	JP	58183916
JP	10028845	NIL			
JP	60019002	NIL			

Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.

END OF ANNEX